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**LAB MANUAL**

**LAB 8 :**

**TASK 1:**

Make a calculator using the function the code should use only 2 operands(+ and -) for division and multiplication as well.

**def add(a, b):**

**return a + b**

**def subtract(a, b):**

**return a - b**

**def multiply(a, b):**

**result = 0**

**negative = False**

**# Handle negative numbers**

**if b < 0:**

**b = -b**

**negative = True**

**for \_ in range(b):**

**result = add(result, a)**

**return -result if negative else result**

**def divide(dividend, divisor):**

**if divisor == 0:**

**raise ValueError("Cannot divide by zero.")**

**negative = False**

**if dividend < 0:**

**dividend = -dividend**

**negative = not negative**

**if divisor < 0:**

**divisor = -divisor**

**negative = not negative**

**quotient = 0**

**while dividend >= divisor:**

**dividend = subtract(dividend, divisor)**

**quotient = add(quotient, 1)**

**return -quotient if negative else quotient**

**# Example usage**

**print("Addition: 5 + 3 =", add(5, 3))**

**print("Subtraction: 10 - 4 =", subtract(10, 4))**

**print("Multiplication: 6 \* -3 =", multiply(6, -3))**

**print("Division: 20 / -4 =", divide(20, -4))**

**OUTPUT :**

**Addition: 5 + 3 = 8**

**Subtraction: 10 - 4 = 6**

**Multiplication: 6 \* -3 = -18**

**Division: 20 / -4 = -5**

**TASK 2 :**

 Write a functions that ask the user the shape and make the star shaped.  
(Like it asks the shape(triangle or Rectangle) and make that shape.

def print\_triangle(rows):

for i in range(1, rows + 1):

print("\* " \* i)

def print\_rectangle(rows, cols):

for i in range(rows):

print("\* " \* cols)

def main():

shape = input("Enter the shape (triangle or rectangle): ").strip().lower()

if shape == "triangle":

rows = int(input("Enter the number of rows for the triangle: "))

print("\nTriangle Pattern:")

print\_triangle(rows)

elif shape == "rectangle":

rows = int(input("Enter the number of rows for the rectangle: "))

cols = int(input("Enter the number of columns for the rectangle: "))

print("\nRectangle Pattern:")

print\_rectangle(rows, cols)

else:

print("Invalid shape. Please enter 'triangle' or 'rectangle'.")

if \_\_name\_\_ == "\_\_main\_\_":

main()

**OUTPUT :**

Enter the shape (triangle or rectangle): triangle

Enter the number of rows for the triangle: 3

Triangle Pattern:

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